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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,119	11/18/2003	Kiyohito Mukai	L8462.03118	2755
24257	7590	12/06/2005	EXAMINER	
STEVENS DAVIS MILLER & MOSHER, LLP			DOAN, NGHIA M	
1615 L STREET, NW			ART UNIT	
SUITE 850			PAPER NUMBER	
WASHINGTON, DC 20036			2825	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/715,119	Applicant(s) MUKAI ET AL.	
	Examiner Nghia M. Doan	Art Unit 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 3-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/18/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/18/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Responsive to communication Election/ Restriction for application 10/715,119 filed on 11/18/2005, claims 1-17 are pending.

Election/Restrictions

2. Claims 3-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

3. Applicant's election of Group I, claims 1-2 in page 1 of Response Election/ Restriction is acknowledged. Because applicant did not distinctly and specifically points out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

4. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-2, drawn to method inspection wires layout of a semiconductor device based on relationship between wires and contact hole, classified in class 716, subclass 4.

II. Claims 3 and 6-8, drawn to method inspection wires layout of a semiconductor device based on the total area of the contact holes, classified in class 716, subclass 4.

III. Claims 4-5 and 14-15, drawn to method inspection wires layout of a semiconductor device based on number of contact holes in the wires of the same node, classified in class 716, subclass 4.

IV. Claims 9-10, drawn to method inspection wires layout of a semiconductor device based on the step of calculating the number of the contact hole in the wires having a constant width, classified in class 716, subclass 4.

V. Claims 11-13, drawn to method inspection wires layout of a semiconductor device based on the steps of dividing the entire area of the chip layout into a plurality of inspection region associated with the wires of a constant width, classified in class 716, subclass 4.

VI. Claims 16-17, drawn to method inspection wires layout of a semiconductor device using an antenna check, classified in class 716, subclass 4.

5. Invention groups I, II, III, IV, V, and VI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because:

Group I drawn to method inspection wires layout of a semiconductor device based on relationship between wires and contact hole;

Group IV drawn to method inspection wires layout of a semiconductor device based on the step of calculating the number of the contact hole in the wires having a constant width; and

Group V drawn to method inspection wires layout of a semiconductor device based on the steps of dividing the entire area of the chip layout into a plurality of inspection region associated with the wires of a constant width.

The subcombination has separate utility such as:

Group II drawn to method inspection wires layout of a semiconductor device based on the total area of the contact holes;

Group III drawn to method inspection wires layout of a semiconductor device based on number of contact holes in the wires of the same node; and

Group VI drawn to method inspection wires layout of a semiconductor device using an antenna check

6. Because these inventions are distinct for the reasons given above and the search required for Group I through VI is distinct, restriction for examination purposes as indicated is proper.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. Applicant's election with traverse of Group I, claims 1-2 in page 1 of Response Election/ Restriction is acknowledged. The traversal is on the ground(s) that Group I through Group VI cannot be treated as combination subcombination, which could be correct. The Examiner still emphasize that the restriction requirement is proper. Group I

through Group VI are being restricted as combination subcombination. Thus, the requirement is still deemed proper and is therefore made FINAL.

9. Group I, claims 1-2 is examined, Applicant is requested to cancel the non-election claims in next communication paper.

Drawings

10. The drawings are objected to because the flow diagram direction of drawings 2-3, -5-6, 8, 11, 14-15, 17-18, 20, 23, 26-27, 31, 34-35, 40-41, and 44-45 are missing. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka (US 6,505,334).

13. **With respect to claim 1**, Tanaka discloses a semiconductor device layout inspection method for inspecting (checking) (abstract) formation defects (density exceed the upper limit value) that will occur in wires of a chip layout, wherein the wire formation defects (density exceeds the upper limit value) are detected (found) by checking the relationship between the layout of the contact holes in said wires and the layout of said wires (abstract, col. 2, ll. 15-59).

14. **With respect to claim 2**, Tanaka discloses the semiconductor device layout inspection method according to Claim 1, wherein the layout of wires where wire formation defects (density exceeds the upper limit value) have been detected (found) is corrected (col. 2, ll. 17-61).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghia M. Doan whose telephone number is 571-272-5973. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghia M. Doan
Patent Examiner
AU 2825
NMD

Thanh Do
THUAN DO
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11/28/05